

Advanced Antenna Turns to MicroCoating to Save Money



TECHNOLOGY

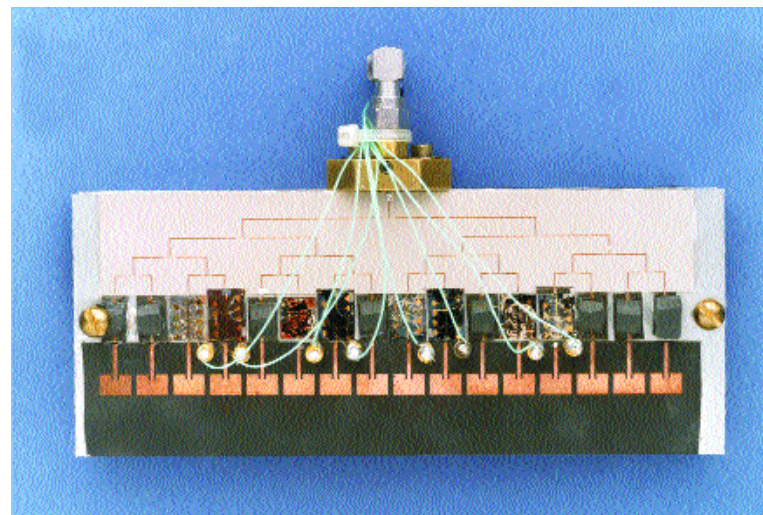
MicroCoating Technology, Inc. (MCT) developed a unique method of applying thin film ferroelectrics with help from the NASA Glenn Space Electronics Branch.

COMMERCIAL APPLICATION

The Great Lakes Industrial Technology Center (GLITeC) established a partnership between MCT and NASA Glenn. NASA characterized unique properties of MCT's coating, and the results of the tests have enabled the company to tailor the emission patterns for optimal antenna use. The new process may enable a new type of phased-array antenna to be built for the satellite communication market at reduced cost.

SOCIAL / ECONOMIC BENEFIT

Phased array technology is under consideration by the automotive industry for collision avoidance, but current manufacturing processes are expensive. NASA's ferroelectric reflectarray technology is expected to triple the efficiency of phased array antennas, and reduce manufacturing costs tenfold. Further cost reductions are expected with a wide-area coating technique similar to the one developed by MCT. The partnership with NASA has enabled MCT to win a Phase II SBIR with DARPA worth more than \$500,000, and hire two additional employees.



NASA APPLICATIONS

Phased array antennas are being developed for future NASA satellite communications and remote sensing spacecraft, including possible space station applications, because they offer rapid, vibration-free beam steering and improved reliability over mechanically steered dish antennas.

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